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GB 1159026 A

(58) Field of Search

UK CL (Edition M) F4H H3

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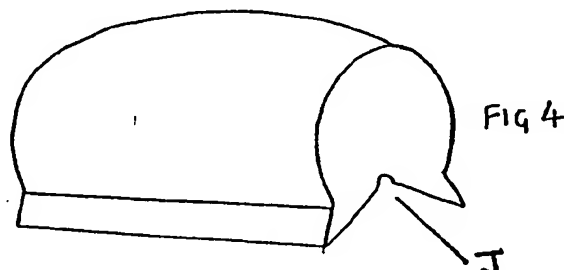
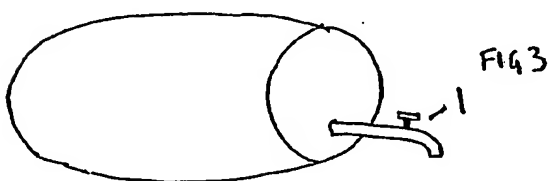
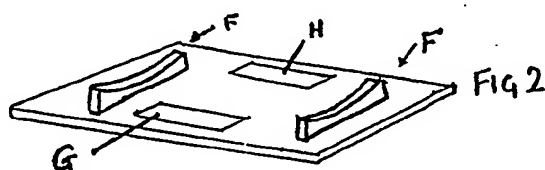
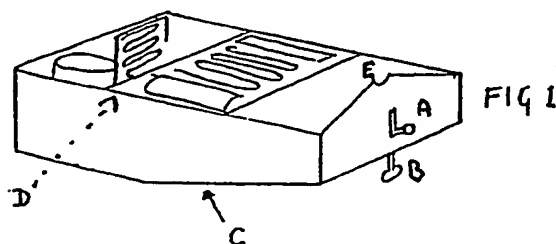
ONLINE DATABASE:WPI

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(54) Cooling assembly for barrels or casks

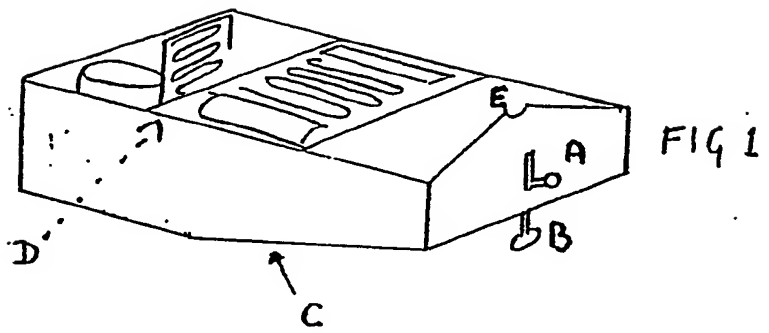
(57) A cask of beer or other product inside an airtight, insulated refrigeration unit is maintained at the temperature recommended by the manufacturer of the contents by forcing air via a fan through an evaporator in a base at intervals controlled by a temperature sensing device. The cold air escapes from the base through grills (h). The cask of beer sits upon adjustable chocks. The contents are served directly from the cask by means of a tap (i) which sits upon a triangular sheet of steel (e) at the front of the base which has a semi circular aperture at the apex. An opposite shape in the hood of the unit (j) enables a perfect air seal to be obtained around the tap. The whole cooling unit can be tilted forward by means of an adjustable foot (b). The weight of the cask on top of the base enables the unit to tilt gently forward without disturbing the contents.



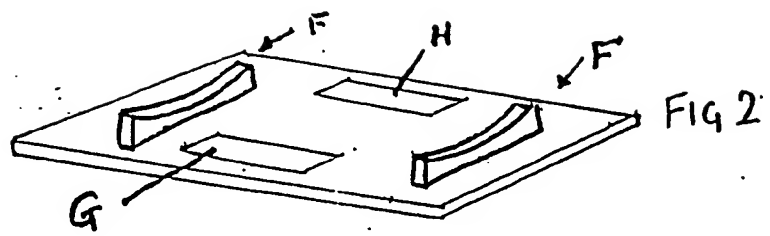
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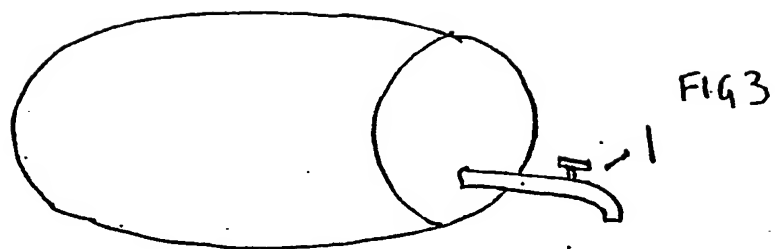
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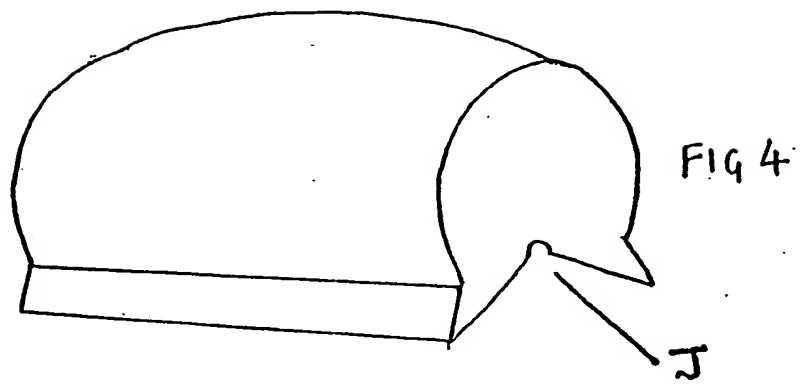
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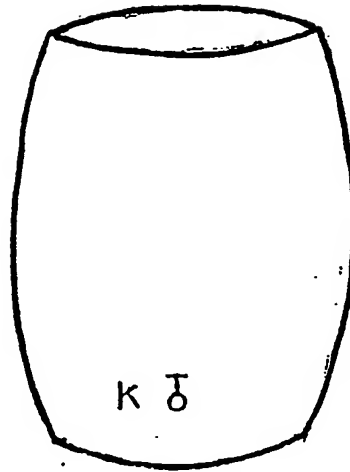


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FIG 5



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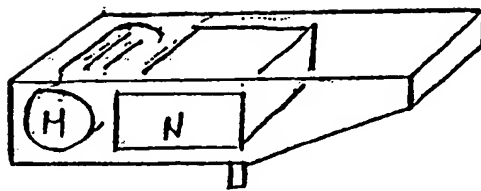


Fig 6

"Improvements Relating to Cooling Apparatus

This invention relates to cooling apparatus. It is called the Rak Mini Cellar.

It is primarily concerned with keeping beer casks barrels or kegs at a correct temperature, and it will be discussed almost entirely in those terms. However, it will be understood that it could be applicable to other liquids such as ciders and lagers in other containers.

Real ale has enjoyed a increasing vogue over the past dozen years or so, but it is more difficult to keep in optimum condition than keg beers. This is especially so when the barrels or casks are not in a cellar but on a rack or shelf behind the bar. This is desirable from a promotional point of view, but the temperature is usually too high, or at least too variable. Ideally, beer should be at a steady temperature of about 13 degrees Celsius. Certain other products such as lager and cider need to be kept at cooler temperatures. It is the aim of this invention to provide the means of doing so.

According to the present invention there is provided a cooling apparatus for beer casks, barrels or kegs (referred to as casks in the following paragraphs) the apparatus comprising a base for a cask, a removable hood for the cask adapted to sit on the base and thereby enclosing the cask but with a space between itself and the cask, means for generating a refrigerated air flow, and means for redirecting that flow from said base into said space.

The refrigerating means is housed within the base, and air is directed up one side of the cask, and over it, and then re-circulated by being drawn back from the other side.

A temperature sensor located at the air intake regulates the air flow and keeps the temperature hovering at the set ideal for the content of the barrel..

The hood is insulated and contoured to match the shape of the cask, leaving a substantially uniform thickness of space at the sides and over the top. Externally, it
5 may be finished to look like a wooden barrel but in some circumstances may resemble a metal keg or other container.

At one end, provision is made for the tap. Obviously, it is undesirable, indeed impractical, to lift the hood off every time some beer is required. Casks and barrels are not always tapped in the same spot so at the tap end of the base there is a rest for the
10 base of the tap, and the cask rests on adjustable chocks on the top of the base enabling different shaped casks to be held in the correct position. When the hood is placed into position, a rubber seal prevents air leakage from around the tap.

A cask or barrel usually has to be tilted as its contents reach the end, and the base has an adjustable leg at the tap end which when lifted causes the base to gently tilt to
15 the required angle.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawing in which :-

Figure 1. represents the base.

Figure 2. represents the insulated top of the base.

20 Figure 3. represents the cask or barrel.

Figure 4. represents the insulated Hood.

Figure 5. represents the evaporator housing.

Figure 6. represents the upright insulated hood

A base 1 is rectangular in plan with a sloping bottom to enable the complete installation to be tilted. This is done by raising the lever a which raises the foot b at the front of the base. The resulting pivoting action at point c causes the complete unit to tilt to the required angle.

5 The lid 2 sits on top of the base 1 and the cask 3 rests upon the adjustable chocks f. The raised front of the base e is triangular in shape with a semi-circle cut away at the apex to enable the tap i from the cask 3 to sit in it. There is rubber insulation at e to prevent cool air leaking out from around the tap.

10 Within the base 1 there is a refrigeration unit d which provides a stream of cooling air. The cool air is obtained by forcing air through the evaporator unit 6 by means of a high powered fan m. The evaporator n sits tightly in the unit 6, enabling air to pass directly through it thereby obtaining maximum cooling effect.

The base of the evaporator unit 6 is raked at a slight angle to enable any condensation to pass out of the base via pipe o.

15 The cool air issues up through a grill g in the insulated top of the base 2.

At the opposite side of the top of the base 2 there another such grill h, and air that has flowed over the cask 3 is returned to the refrigeration unit d for cooling. At point h there is a temperature probe which controls a thermostat arranged to govern the refrigerator unit d.

20 A hood 4 fits over the cask 3 and rests on the periphery of the base 1. Its upper portion resembles a barrel. It is an insulating shell over of the cask and leaves a narrow space

between itself and the cask over which the refrigerated air is passed. At one end where the cask tap i is, there is a triangular cut away j with a semi circular cut away at the apex which allows the tap to protrude when the hood is placed on the base. A rubber seal prevents cold air escaping from around the tap i.

In use a cask 3 is placed on the top of the base 2 and the hood 4 is placed over the base.

- 5 The unit is set in operation by a switch on the base (not shown) and the cool air flows over the cask until the desired temperature is obtained. In the case of a keg beer or other product where the cask has to stand vertically, a vertical hood 5 replaces the hood 4, and the product is dispensed via a tap k.

Claims

1. The Rak Mini Cellar comprises a base which is capable of tilting to the required angle to drain the cask which sits upon it, a refrigeration unit housed in the base, a tap guide at the front of the base, adjustable chocks which sit on top of the base, and an air tight insulated hood, simulating a beer cask or keg, which surrounds the beer cask,
2. The Rak Mini Cellar as claimed in claim 1, wherein the tilt required is obtained by raising a leg which tilts the whole base on the pivot angle at the bottom of the base.
3. The Rak Mini Cellar as claimed in claim 1 or claim 2, wherein a triangular steel plate, with a semi circular gap at the apex, at the front of the base, acts as a tap guide and adjustable chocks on the top of the base act as rests to enable the tap to fit tightly into the tap guide enabling an air tight seal.
4. The Rak Mini Cellar as claimed in claims 1, 2 or 3 wherein the hood has a triangular cut away with a semi circular gap at the apex at the front to match the triangular steel plate at the front of the base. When placed in position an air tight seal is made around the tap and between the base and the hood.
5. The Rak Mini Cellar as claimed in claims 1, 2, 3, or 4 wherein the evaporator sits tightly inside a housing containing a high powered fan which forces air through the evaporator. The evaporator housing is raked at the bottom to enable the collection of condensation via a pipe attached to a small plug at the bottom of the housing..
6. The cooling apparatus for beer casks substantially as described herein with reference to figures 1-5 of the following drawings.

Amendments to the claims have been filed as follows

1. The beverage cooling apparatus, adapted to cool a beer or like liquid container, comprises of :-

A base having an inclined, raked partition, which is capable of tilting to the required angle to drain the container which sits upon it.

A refrigeration unit housed in the base.

A tap guide at the front of the base.

Adjustable chocks which sit on top of the base.

A thermally insulated hood simulating a beer cask or keg, which surrounds the liquid container at the base,
2. The beverage cooling apparatus as claimed in claim 1, wherein the tilt required is obtained by raising a leg which tilts the whole base on the pivot angle at the bottom of the base.
3. The beverage cooling apparatus as claimed in claim 1 or claim 2, wherein a triangular steel plate with a semi circular gap at the apex at the front of the base acts as a tap guide and adjustable chocks on the top of the base act as rests to enable the tap to fit tightly into the tap guide enabling an air tight seal.
4. The beverage cooling apparatus as claimed in claims 1, 2 or 3 wherein the hood has a triangular cut away with a semi circular gap at the apex at the front to match the triangular steel plate at the front of the base. When placed in position an air tight seal is made around the tap and between the base and the hood.
5. The beverage cooling apparatus as claimed in claims 1, 2, 3, or 4 wherein the evaporator sits tightly inside a housing containing a high powered fan which forces air through the evaporator. The evaporator housing is raked at the bottom to enable the

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collection of condensation via a pipe attached to a small plug at the bottom of the housing..

6. The beverage cooling apparatus substantially as described herein with reference to figures 1-5 of the following drawings.

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Relevant Technical Fields

- (i) UK Cl (Ed.M) F4H (H3)
 (ii) Int Cl (Ed.5) F25D

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

(ii) ONLINE DATABASE: WPI

Search Examiner
 M C MONK

Date of completion of Search
 12 OCTOBER 1994

Documents considered relevant
 following a search in respect of
 Claims :-
 ALL

Categories of documents

- X: Document indicating lack of novelty or of inventive step. P: Document published on or after the declared priority date but before the filing date of the present application.
- Y: Document indicating lack of inventive step if combined with one or more other documents of the same category. E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.
- A: Document indicating technological background and/or state of the art. &: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages	Relevant to claim(s)
A	GB 1159026 (GORDON) whole document; see especially Figure 2	1

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